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EXAMINER	
BRANT, DMITRY	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/832,645	Applicant(s) SATOH, KOUICHI	
	Examiner Dmitry Brant	Art Unit 2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 May 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-26* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *10-13 and 21-26* is/are allowed.

6)☐ Claim(s) *1-9, 14-20* is/are rejected.

7)☒ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☒ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. In response to the Office Action mailed 11/28/03, Applicant has submitted an Amendment, filed 5/24/04, correcting informalities in claims 15, 25, and 26, and also correcting Abstract. As the result, objections to Abstract and claims 15, 25, and 25 have been withdrawn.

Response to Arguments

2. Applicant's arguments, see Amendment, page 8, filed 5/24/04, with respect to the rejections of claims 1-3, 7, 16, and 20 under 35 U.S.C. 102(e) have been fully considered and are not persuasive. Applicant cannot rely upon the foreign priority papers (JP 2000-114244, filed 4/14/200) to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

However, upon further consideration, Examiner provided new grounds for rejection in view of Ashby et al and Martino et al., in case Applicant does provide the requested translation.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 7, 16, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Ito (6,243,675 filed 8/8/2000). The table below summarizes the limitations of these claims and teachings in Ito that meet these limitations.

Claim #	**Limitations**	**Ito**
1	A navigation system comprising: speech-recognition means for performing speech-recognition processing on input speech spoken by a speaker language-determining means for determining what language said input speech is spoken in based on the contents of said input speech as recognized by said speech-recognition means and navigation-processing means for performing a vehicle-installed-type navigation operation utilizing the language of a speaker as determined by said language-determining means.	speech recognition is performed at **S210, FIG. 5** The language setting routine is implemented by the speech control unit, as described in **FIG. 3** In addition to the route guiding function ..., the navigation system of the present embodiment is selectively switchable of the language used for information output processing between Japanese language, English language, and German language. **(Column 4, lines 6-11).** Also see **(1, FIG. 1)**
2	The navigation system according to claim 1, wherein: said navigation-processing means includes map displaying means for displaying map information	See **40, FIG. 1**

	showing a vicinity of a vehicle and said map displaying means utilizes the language of a speaker, as determined by said language-determining means, for the language of characters included in said displayed map information.	the navigation system is selectively switchable of the language used for information output processing between Japanese language, English language, and German language. The term "information output processing" means the information displaying on the display unit and the speech generation from the speaker. **(Column 4, lines 7-14).**
3	The navigation system according to claim 1, wherein: said navigation-processing means includes route-searching means for searching for a route to a destination and route-guiding means for guiding a vehicle by means of guiding speech along a route set by said route-searching means and said route-guiding means generates said guiding speech utilizing the language of a speaker as corresponding to said language determined by said language-determining means.	an optimal route from the present location to the location of destination is automatically selected, and the guidance route is formed and displayed. **(Column 3, lines 64-67)** After the guidance route is formed and displayed, speech for guiding the route is generated from the speaker by way of the speech output control unit depending on the running location of the vehicle. **(Column 4, lines 2-5)** the navigation system of the is selectively switchable of the language used for information output processing between Japanese language, English language, and German language. The term "information output processing" means the information displaying on the display unit and the speech generation from the speaker. **(Column 4, lines 7-14).**
7	The navigation system according to claim 1, further comprising:	The communication I/F is an interface for connecting to cellular phones (Column 8

	comprising: transmission requesting means for requesting transmission of detailed information in the language of a speaker as determined by said language-determining means and information receiving means for receiving the transmitted detailed information transmitted in accordance with the request from said transmission requesting means.	connecting to cellular phones (**Column 8, lines 37-39**). Cell-phones are inherently capable of transmitting and receiving information over the Internet and from wireless network providers.
16	A map information displaying method in a navigation system comprising the acts of: performing speech-recognition processing on input speech determining a language of a speaker of the input speech based on the contents of the recognized input speech and displaying map information utilizing the language determined for the language of the characters.	 speech recognition is performed at **S210, FIG. 5** The language setting routine is implemented by the speech control unit, as described in **S120, S140** and **S160** in **FIG. 3** the navigation system is selectively switchable of the language used for information output processing between Japanese language, English language, and German language. The term "information output processing" means the information displaying on the display unit and the speech generation from the speaker. **(Column 4, lines 7-14).**
20	A route guiding method in a navigation system comprising the acts of: searching for a route to a destination	 an optimal route from the present location to the location of destination is automatically selected, and the guidance route is formed and displayed. **(Column 3, lines 64-67)**

	performing speech-recognition processing on input speech	speech recognition is performed at **S210, FIG. 5**
	determining a language of a speaker of the input speech based on the contents of the recognized input speech	The language setting routine is implemented by the speech control unit, as described in **S120, S140** and **S160** in **FIG. 3**
	generating guiding speech corresponding to the speaker's determined language and guiding a vehicle along a route set in the searching step using the guiding speech.	speech for guiding the route is generated from the speaker by way of the speech output control unit depending on the running location of the vehicle. **(Column 4, lines 2-5).** The generated speech corresponds to the speaker's language as described in rejection for claim 3, last paragraph.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. Claims 4,8,9 and 14 are rejected under 35 U.S.C. 103(a) as being obvious over Ito as applied to claim 1, in view of Martino et al. (5,548,507).

As per claim 4, Ito discloses the navigation system that comprises the speech control unit implementing a "language setting routine" to determine the language spoken by the user. See FIG. 3

Ito does not disclose a system "wherein said language-determining means examines the language word in said input speech is spoken in and determines the language the majority of words are spoken in as a speaker's language."

Martino et al. teach a language identification system that "compares each source word with all the common words in all Word Frequency Tables (WFTs)" (Column 10, lines 30-32) associated with different languages, updates Word Frequency Accumulators (WFAs) for each language and once the processing of the document is finished, picks the language with the highest WFA value. (Column 11, lines 1-4) and FIG. 2.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify navigation system described by Ito to use the language recognition system taught by Martino et al. The motivation for doing so would have been an improved language identification method for the navigation system. The system taught by Martino et al. is less likely to pick the wrong language since it analyzes every word in the utterance and picks the most probable language, while the

system taught by Ito picks the language based on the first word it recognizes and hence could pick the wrong language if the utterance contains words from several languages.

As per claim 8, Ito discloses the navigation system that comprises a microphone (22a, FIG. 1) connected to a central control unit (10, FIG. 1) responsible for speech-recognition (11, FIG. 1), a display (40, FIG. 1), and a map data input unit, such as CD-ROM or DVD (60, FIG.1 and Column 3, lines 39-44) that is capable of retrieving information in multiple languages, as requested by speech-control device. (Column 4, lines 7-14).

Ito does not disclose " an identity learning unit for computing a frequency of languages determined by said speech-recognition device and for updating the contents of an identity database based on a frequency distribution of the languages stored in said identity database."

Martino et al. teach a language identification system that "compares each source word with all the common words in all Word Frequency Tables (WFTs)" (Column 10, lines 30-32) associated with different languages, updates Word Frequency Accumulators (WFAs) for each language and once the processing of the document is finished, picks the language with the highest WFA value. (Column 11, lines 1-4) and FIG. 2. The WFA are stored in "storage medium" (Column 11, lines 14-17) that could be a database or memory.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify navigation system described by Ito to use the language

recognition system taught by Martino et al. The motivation for doing so would have been an improved language identification method for the navigation system. The system taught by Martino et al. is less likely to pick the wrong language since it analyzes every word in the utterance and picks the most probable language, while the system taught by Ito picks the language based on the first word it recognizes and hence could pick the wrong language if the utterance contains words from several languages.

As per claim 9, Ito discloses the navigation system that comprises a microphone (22a, FIG. 1), an audio unit (21a, FIG. 1), a display (40, FIG. 1), and central control unit (10, FIG. 1) that performs speech processing (11, FIG. 1) and "is programmed to ... drive the information output unit to issue information in the set output mode", such as speech or map display (Column 2, 1-10).

Ito does not disclose " an identity learning unit for computing a frequency of languages determined by said speech-recognition device and for updating the contents of an identity database based on a frequency distribution of the languages stored in said identity database."

Martino et al. teach a language identification system that "compares each source word with all the common words in all Word Frequency Tables (WFTs)" (Column 10, lines 30-32) associated with different languages, updates Word Frequency Accumulators (WFAs) for each language and once the processing of the document is finished, picks the language with the highest WFA value. (Column 11, lines 1-4) and

FIG. 2. The WFA are stored in "storage medium" (Column 11, lines 14-17) that could be a database or memory.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify navigation system described by Ito to use the language recognition system taught by Martino et al. The motivation for doing so would have been an improved language identification method for the navigation system. The system taught by Martino et al. is less likely to pick the wrong language since it analyzes every word in the utterance and picks the most probable language, while the system taught by Ito picks the language based on the first word it recognizes and hence could pick the wrong language if the utterance contains words from several languages.

As for claim 14, Ito discloses the navigation system that comprises a microphone (22a, FIG. 1), a speech processing unit that performs speech recognition (11, FIG. 1), and a map data input unit, such as CD-ROM or DVD or other types of memory (60, FIG.1 and Column 3, lines 39-44) that is capable of retrieving information in multiple languages, as requested by speech-control device. (Column 4, lines 7-14) and central control unit (10, Figure 1) that can communicate with the map data input requesting the map in the appropriate language.

Ito does not disclose "an identity learning unit for computing a frequency of languages determined by said speech-recognition device and for updating the contents of an identity database based on a frequency distribution of the languages stored in said identity database."

Martino et al. teach a language identification system that "compares each source word with all the common words in all Word Frequency Tables (WFTs)" (Column 10, lines 30-32) associated with different languages, updates Word Frequency Accumulators (WFAs) for each language and once the processing of the document is finished, picks the language with the highest WFA value. (Column 11, lines 1-4) and FIG. 2. The WFA are stored in "storage medium" (Column 11, lines 14-17) that could be a database or memory.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify navigation system described by Ito to use the language recognition system taught by Martino et al. The motivation for doing so would have been an improved language identification method for the navigation system. The system taught by Martino et al. is less likely to pick the wrong language since it analyzes every word in the utterance and picks the most probable language, while the system taught by Ito picks the language based on the first word it recognizes and hence could pick the wrong language if the utterance contains words from several languages.

Also, at the time of the invention it would have been obvious to a person of ordinary skill to also modify central control unit described by Ito to download some other map from the map data unit if the map in the requested language was not available.

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being obvious over Ito in view of Martino et al. as applied to claim 4, and further in view of Ohishi et al (6,385,535).

As per claim 5, Ito discloses the navigation system that comprises the speech control unit implementing a "language setting routine" to determine the language spoken by the user. See FIG. 3

Ito also does not disclose "language-determining means [that] includes a database for storing features of a speaker's language as extracted by the language-determining means and the speaker's language is determined individually."

Ohishi et al. teach a navigation system that includes a voice characteristic registering unit (71, FIG. 2) that stores voice characteristics of the frequent car riders.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify navigation system described by Ito to store speaker's voice features in a database storage such as voice characteristic registering unit which is taught by Ohishi. The motivation for doing so would have been an ability to train the language identification system to understand the speech idiosyncrasies of each driver.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being obvious over Ito as applied to claim 1, and in view of Urbach (WO 01/04790 A1).

Ito discloses the navigation system that can switch languages used for displaying information or speech generation. (Column 4, lines 7-14).

Ito does not disclose "image recognition means for determining the contents of the characters included in an inputted image of a captured predetermined road guiding board, wherein said navigation-processing means includes guiding means for replacing

the characters, whose contents are determined by said image recognition means, with other characters, having the same meaning, in a speaker's language as determined by said language-determining means, and for performing at least one of displaying or speech-outputting."

Urbach teaches an apparatus that can capture images and replaces foreign characters in these images with the characters of the target language. (Page 3, lines 2-9)

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify navigation system described by Ito to use the sign-translating device taught by Urbach. The motivation for doing so would have been an operational enhancement to the navigation system taught by Ito, since this system would be capable not only of providing the road directions in the user's language, but would also translate the signs appearing along the road, thus improving user's ability to navigate in the foreign countries.

9. Claims 10-13 are rejected under 35 U.S.C. 103(a) as being obvious over Ito, in view of Urbach and further in view of Martino et al.

As per clam 10, Ito discloses the navigation system that comprises a microphone (22a, FIG. 1), a display (40, FIG. 1), and a speech processing unit that performs speech recognition (11, FIG. 1).

Ito does not disclose "an identity learning unit for computing a frequency of languages determined by said speech-recognition device and for updating the contents of an identity database based on a frequency distribution of the languages stored in said identity database", "a camera", "an image recognition unit for determining a language of a character string included in a road guiding board captured by said camera", and "a guiding sign generating unit, for generating a guiding image in a speaker's language, connected with said image recognition device."

However, Urbach teaches a camera (page 7, line 3) with character recognition unit (54, Fig. 1b) that is capable of translating and generating images in user's language (58, Fig. 1b).

Therefore, it would have been obvious to a person of ordinary skill in the art to further modify navigation system described by Ito combined with the camera taught by Urbach because it would the system to translate the signs appearing along the road, thus improving user's ability to navigate in the foreign countries.

Neither Ito nor Urbach teach "an identity learning unit for computing a frequency of languages determined by said speech-recognition device and for updating the contents of an identity database based on a frequency distribution of the languages stored in said identity database."

However, Martino et al. teach a language identification system that "compares each source word with all the common words in all Word Frequency Tables (WFTs)" (Column 10, lines 30-32) associated with different languages, updates Word Frequency Accumulators (WFAs) for each language and once the processing of the document is

finished, picks the language with the highest WFA value. (Column 11, lines 1-4) and FIG. 2. The WFA are stored in "storage medium" (Column 11, lines 14-17) that could be a database or memory.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to further modify navigation system described by Ito combined with the camera taught by Urbach to use the language recognition system taught by Martino et al.. This would have been an operational enhancement to the navigation system taught by Ito, since this system would have improved language identification capabilities and it would to translate the signs appearing along the road, thus improving user's ability to navigate in the foreign countries.

As per claim 11, Ito discloses speech control unit that can generate speech (11, FIG. 1) and audio unit for outputting speech (21a, FIG. 1).

As per claim 12, Ito does not teach a system "wherein guiding sign generating unit generates the guiding image by replacing the language of the character strings in a route guiding board with character strings of a different language."

However, Urbach teaches a system that can provide a translation (28, FIG. 2) of the target area (26, FIG. 2) at the bottom of the screen (30, FIG. 2). At the time of the invention it would have been obvious to a person of ordinary skill in the art of image processing to modify the system taught by Urbach to display the translation (28, FIG. 2) on top of the target area (26, FIG. 2) instead of the bottom of the screen, particularly

because Urbach teaches the use of his system with digital camcorders (10, FIG. 1). The digital images captures by these camcorders are easily manipulated in software or hardware; hence, it would have been easy to change the captured image using the camera's software/hardware to replace the target area with the translation or place the translation on any other part of the image. As a result, the user would translation directly on the image of the road sign.

As per claim 13, Ito does not teach a system "wherein guiding sign generating unit generates the guiding image without replacing the language of the character strings contained in said road guiding board."

Urbach teaches a system that can provide a translation (28, FIG. 2) of the target area (26, FIG. 2) at the bottom of the screen (30, FIG. 2), without directly manipulating the image.

Therefore, it would have been obvious to a person of ordinary skill in the art to augment Ito's system with a unit taught by Urbach. This would allow Ito's system to display road signs even if translation was not available in the speaker's language.

10. Claims 17-18 are rejected under 35 U.S.C. 103(a) as being obvious over Ito as applied to claim 16.

As per claim 17, Ito discloses the navigation system that comprises a map data unit, such as CD-ROM or DVD or other types of memory (60, FIG.1 and Column 3, lines 39-44).

Ito does not disclose "a map information displaying method comprising the act of determining whether map information corresponding to a speaker's determined language is stored in a storage medium."

At the time of the invention it would have been obvious to a person of ordinary skill that a multitude of maps in different languages can be stored on CD-ROM or DVD disks. Furthermore, it would have been obvious to a person of ordinary skill that a variety of software or hardware methods could be implemented for determining whether a map in a specified language is available on the DVD or CD-ROM. This would allow the system to check whether the DVD or CD-ROM was available in the user's language.

As per claim 18, Ito does not disclose "the act of reading map information independent oa a speaker's language when the speaker's determined language is not stored in the storage medium."

However, it would have been obvious to a person of ordinary skill in the art that a default map could be read from DVD or CD-ROM device, if the map in a specified language were not available. This would allow the system to show the user a foreign language map - such map could still provide some navigational help for the user.

11. Claim 19 is rejected under 35 U.S.C. 103(a) as being obvious over Ito as applied to claim 16, and further in view of Weiner (6,490,521).

Ito discloses communication interface for connecting to cellular phones (Column 8, lines 37-39) and data memory (93, FIG. 6).

Ito does not disclose a system where "a request of transmitting map information is sent to the information center" and "the map information corresponding to this transmission request is received and stored in a map buffer."

Weiner teaches a system that requests and receives map information from the service provider (B518, B524, FIG. 5) over a cellular network (32, FIG. 1).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify navigation system discloses by Ito to download map from the service provider as taught by Weiner. This would allow the navigation system to obtain maps on demand from the service provider to virtually any location, since the memory capacity of the local navigation system is limited, while the service provider can store a very large number of maps.

12. Claims 21-26 are rejected under 35 U.S.C. 103(a) as being obvious over Ito, and further in view of Urbach (WO 01/04790 A1).

As per claim 21, Ito describes the navigation system that can perform speech recognition and automatically determine the language of the speaker. (FIG. 5)

Ito does not describe means for capturing the images of road guiding boards (signs) and translating the contents of these boards into the speaker's language.

Urbach teaches an apparatus that can capture images of signs and translate them into the user's language. (Page 3, lines 2-9)

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify navigation system described by Ito to use the sign-translating device taught by Urbach. This would have been an operational enhancement to the navigation system taught by Ito, since this system would be capable not only of providing the road directions in the user's language, but would also translate the signs appearing along the road, thus improving user's ability to navigate in the foreign countries.

As per claim 22, Ito does not teach "the act of displaying the characters in the speaker's determined language".

Urbach further describes a system that displays the translation in the speaker's language. (Page 7, lines 18-19).

Therefore, it would have been obvious to a person of ordinary skill in the art to modify navigation system described by Ito to display the characters in the speaker's language using the system taught by Urbach, because this would allow the user to view the translation of the road signs on the display.

As per claim 23, Ito does not disclose "audibly outputting the characters in the speaker's determined language."

However, Urbach further describes a system that audibly outputs the translation in the speaker's language. (Page 7, lines 19-21)

Therefore, it would have been obvious to a person of ordinary skill in the art to modify navigation system described by Ito to audibly output the characters in the speaker's language using the system taught by Urbach, because this would allow the user to listen to translation of the road signs.

As per claim 24, Ito describes the navigation system that can perform speech recognition and automatically determine the language of the speaker. (FIG. 5)

Ito does not describe means for capturing the images of road guiding boards (signs) and determining the contents of these boards.

Urbach teaches an apparatus that can capture images of signs and determine the contents of the text in the captured image, since analysis of text is part of the translation (Page 3,lines 2-9)

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify navigation system described by Ito to use the sign-capturing device taught by Urbach. The motivation for doing so would have been an operational enhancement to the navigation system taught by Ito, since this system would be capable not only of providing the road directions in the user's language, but would also analyze the signs appearing along the road, thus improving user's ability to navigate in

the foreign countries where local notation may be different from the notation the user is accustomed to.

As per claim 25, Ito does not disclose a system "wherein the act of outputting the characters contained in said image is performed audibly."

However, Urbach further describes a system that audibly outputs the translation in the speaker's language. (Page 7, lines 19-21)

Therefore, it would have been obvious to a person of ordinary skill in the art to modify navigation system described by Ito to audibly output the characters contained in the road sign in the speaker's language using the system taught by Urbach, because this would allow the user to listen to translation of the road signs.

As per claim 26, Ito does not disclose a system "wherein the act of outputting the characters comprises the act of displaying the characters."

However, Urbach further describes a system that displays the translation in the speaker's language. (Page 7, lines 18-19)

Therefore, it would have been obvious to a person of ordinary skill in the art to modify navigation system described by Ito to display the characters contained in the road sign in the speaker's language using the system taught by Urbach, because this would allow the user to view the translation of the road signs on the display.

Claim Rejections - 35 USC § 103 (Alternative)

13. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

14. Claims 1-4, 7-9, 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ashby et al. (6,081,803) in view of Martino et al. (6,061,646)

As per claim 1, Ashby et al. disclose speech-recognition means for performing speech-recognition processing on input speech spoken by a speaker (Col. 5, line 9); language-determining means (Col. 19, lines 6-12); and navigation-processing means for performing a vehicle-installed-type navigation operation utilizing the language of a speaker as determined by said language-determining means (Col. 19, lines 33-43).

Ashby et al. do not disclose the use of "means for determining what language said input speech is spoken in based on the contents of said input speech as recognized by said speech-recognition means."

Martino et al. teach a method for determining the spoken language received at speech recognition means (Col. 2, lines 21-37)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ashby et al. as taught by Martino et al. in order to enable the system to identify user's language based on the audio input, so as to make the system "user-friendlier." Ashby et al. already teach: (1) the use of voice (speech)

recognition and (2) the selection of languages through manual means. As a result, it would have been an obvious modification to perform language selection directly through speech processing to improve machine-user interface available to foreign speakers (Col. 1, lines 35-40).

As per claim 2, Ashby et al. disclose (30, FIG. 2) and map displaying means utilizing the language of a speaker, as determined by said language-determining means, for the language of characters included in said displayed map information. (Col. 19, lines 35-36; once a language is chosen, map display function will necesseraly use the chosen language).

As per claim 3, Ashby et al. disclose route-searching means (route calculation function, 29, FIG. 2), route-guiding means (maneuver generation function, 32, FIG. 2) and route-guiding means which generate said guiding speech utilizing the language of a speaker as corresponding to said language determined by said language-determining means (Col. 19, lines 35-36; once a language is chosen, map display function will necessarily use the chosen language).

As per claim 4, Ashby et al. do not disclose the use of language-determining means examines the language every word in said input speech is spoken in and determines the language the majority of words are spoken in as a speaker's language.

However, Martino et al. teach comparing every input word to "keywords" stored in the word frequency tables (Table. 1) and choosing the language that has the greatest number of keywords. While Martino et al. do not teach determining the language based on the majority of "all" words, it would have been an obvious variation of their invention if the spoken phrases were short and the initial vocabularies were sufficiently large. (Col. 5, lines 15-22)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ashby et al. as taught by Martino et al. in order to enable the system to identify user's language based on the audio input, so as to make the system "user-friendlier."

As per claim 7, Ashby et al. disclose a system operational in networked environment, such as client-server environment, where it will necessarily have the transmission means for sending and downloading information (Col. 20, lines 18-25).

As per claim 8, Ashby et al. disclose: microphone (Col, 5, line 8), speech-recognition device (Col. 5, line 9); language-determining means (Col. 19, lines 6-12), disk-reading device (CD-ROM, Col. 5, lines 22-25), map reading device (18, FIG. 2, Col. 19, lines 33-43), and display (27, FIG. 1)

Ashby et al. do not disclose the use a language "identity learning unit."

Martino et al. teach a method and apparatus for determining the spoken language received at speech recognition means (Col. 2, lines 21-37)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ashby et al. as taught by Martino et al. in order to enable the system to identify user's language based on the audio input, so as to make the system "user-friendlier." Ashby et al. already teach the use of voice (speech) recognition and the selection of languages through manual means, so it would have been an obvious modification to perform language selection directly through speech processing, primarily as an improvement of machine-user interface available to foreign speakers (Col. 1, lines 35-40)

As per claim 9, Ashby et al. disclose: microphone (Col, 5, line 8), speech-recognition device (Col. 5, line 9); language-determining means (Col. 19, lines 6-12), disk-reading device (CD-ROM, Col. 5, lines 22-25), map reading device (18, FIG. 2, Col. 19, lines 33-43), intersection guiding unit (maneuver generation function, 32, FIG. 2) ,display (27, FIG. 1), audio unit (29, FIG. 1), and a processor (map control unit) capable of accessing maps in memory buffer (RAM, 20, FIG. 1) and non-volatile memory (16, FIG. 1 and 30, FIG. 1) . Once a specific language is chosen by a user, maps and maneuver directions will necessarily use the chosen language (Col. 19, lines 35-36)

Ashby et al. do not disclose the use a language "identity learning unit."

Martino et al. teach a method and apparatus for determining the spoken language received at speech recognition means (Col. 2, lines 21-37)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ashby et al. as taught by Martino et al. in order to enable the system to identify user's language based on the audio input, so as to make the system "user-friendlier." Ashby et al. already teach the use of voice (speech) recognition and the selection of languages through manual means, so it would have been an obvious modification to perform language selection directly through speech processing, primarily as an improvement of machine-user interface available to foreign speakers (Col. 1, lines 35-40)

As per claim 14, Ashby et al. disclose: microphone (Col, 5, line 8), speech-recognition device (Col. 5, line 9); language-determining means (Col. 19, lines 6-12), disk-reading device (CD-ROM, Col. 5, lines 22-25), map reading device (18, FIG. 2, Col. 19, lines 33-43), intersection guiding unit (maneuver generation function, 32, FIG. 2) ,display (27, FIG. 1), audio unit (29, FIG. 1), and a processor (map control unit) capable of accessing maps in memory buffer (RAM, 20, FIG. 1) and non-volatile memory (16, FIG. 1 and 30, FIG. 1) . Once a specific language is chosen by a user, maps and maneuver directions will necessarily use the chosen language (Col. 19, lines 35-36)

Ashby et al. do not disclose the use a language "identity learning unit."

Martino et al. teach a method and apparatus for determining the spoken language received at speech recognition means (Col. 2, lines 21-37)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ashby et al. as taught by Martino et al. in order to enable the system to identify user's language based on the audio input, so as to make the system "user-friendlier." Ashby et al. already teach the use of voice (speech) recognition and the selection of languages through manual means, so it would have been an obvious modification to perform language selection directly through speech processing, primarily as an improvement of machine-user interface available to foreign speakers (Col. 1, lines 35-40)

As per claim 15, Ashby et al. disclose a system operational in networked environment, such as client-server environment, where it will necessarily have the transmission means for downloading information (Col. 20, lines 18-25).

As per claim 16, Ashby et al. disclose performing speech-recognition (Col. 5, line 9); language-determining means (Col. 19, lines 6-12), and displaying a map information using user's language (30, FIG. 2 and 27, FIG. 1).

Ashby et al. do not disclose "determining a language of a speaker of the input speech based on the contents of the recognized input speech"

Martino et al. teach a method and apparatus for determining the spoken language received at speech recognition means (Col. 2, lines 21-37)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ashby et al. as taught by Martino et al. in order to enable

the system to identify user's language based on the audio input, so as to make the system "user-friendlier." Ashby et al. already teach the use of voice (speech) recognition and the selection of languages through manual means, so it would have been an obvious modification to perform language selection directly through speech processing, primarily as an improvement of machine-user interface available to foreign speakers (Col. 1, lines 35-40)

As per claim 17, Ashby et al. disclose the navigation system that comprises a map data unit, such as CD-ROM or DVD or other types of memory (30, 32, FIG. 2).

Neither Ashby et al. nor Martino et al. disclose "a map information displaying method comprising the act of determining whether map information corresponding to a speaker's determined language is stored in a storage medium."

At the time of the invention it would have been obvious to a person of ordinary skill that a multitude of maps in different languages can be stored on CD-ROM or DVD disks. Furthermore, it would have been obvious to a person of ordinary skill that a variety of software or hardware methods could be implemented for determining whether a map in a specified language is available on the DVD or CD-ROM. This would allow the system to check whether the DVD or CD-ROM was available in the user's language.

As per claim 18, neither Ashby et al. nor Martino et al. disclose "the act of reading map information independent of a speaker's language when the speaker's determined language is not stored in the storage medium."

However, it would have been obvious to a person of ordinary skill in the art that a default map could be read from DVD or CD-ROM device, if the map in a specified language were not available. This would allow the system to show the user a foreign language map - such map could still provide some navigational help for the user.

15. Claim 5 is rejected under 35 U.S.C. 103(a) as being obvious over Ashby et al. in view of Martino et al. as applied to claim 4, and further in view of Ohishi et al (6,385,535).

As per claim 5, neither Ashby et al. nor Martino et al. disclose "language-determining means [that] includes a database for storing features of a speaker's language as extracted by the language-determining means and the speaker's language is determined individually."

Ohishi et al. teach a navigation system that includes a voice characteristic registering unit (71, FIG. 2) that stores voice characteristics of the frequent car riders.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ashby et al. and Martino et al. as taught by Ohishi et al. in order to store speaker's voice features in a database storage such as voice characteristic registering unit (Ohishi). The motivation for doing so would have been an

ability to train the language identification system to understand the speech idiosyncrasies of each driver (effectively making it speaker-dependent system).

16. Claim 19 is rejected under 35 U.S.C. 103(a) as being obvious over Ashby et al. nor Martino et al. as applied to claim 16, and further in view of Weiner (6,490,521).

Ashby et al. disclose that their system operates in the networked environment (Col. 20, lines 18-25)

Neither Ashby et al. nor Martino et al. disclose a system where "a request of transmitting map information is sent to the information center" and "the map information corresponding to this transmission request is received and stored in a map buffer."

Weiner teaches a system that requests and receives map information from the service provider (B518, B524, FIG. 5) over a cellular network (32, FIG. 1).

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify navigation system discloses by Ashby et al. and Martino et al. to download map from the service provider as taught by Weiner. This would allow the navigation system to obtain maps on demand from the service provider to virtually any location, since the memory capacity of the local navigation system is limited, while the service provider can store a very large number of maps.

As per claim 20, discloses searching route to destination (29, FIG. 2), performing speech-recognition (Col. 5, line 9); language-determining means (Col. 19, lines 6-12),

and a speaker (29, FIG. 1), which is necessarily capable of providing audible instructions generated by maneuver generating function (32, FIG. 2)

Ashby et al. do not disclose "determining a language of a speaker of the input speech based on the contents of the recognized input speech"

Martino et al. teach a method and apparatus for determining the spoken language received at speech recognition means (Col. 2, lines 21-37)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ashby et al. as taught by Martino et al. in order to enable the system to identify user's language based on the audio input, so as to make the system "user-friendlier." Ashby et al. already teach the use of voice (speech) recognition and the selection of languages through manual means, so it would have been an obvious modification to perform language selection directly through speech processing, primarily as an improvement of machine-user interface available to foreign speakers (Col. 1, lines 35-40)

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Van Ryzin (5,844,505) teaches the use of video camera in a car navigation system

Junqua (6,598,018) teaches a speech recognition system used in a car navigation system.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dmitry Brant whose telephone number is (703) 305-8954. The examiner can normally be reached on Mon. - Fri. (8:30am - 5pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Talivaldis Ivars Smits can be reached on (703) 306-3011. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Tech Center 2600 receptionist whose telephone number is (703) 305- 4700.

Nguyen VO
8-5-04

DB
8/3/04

NGUYEN T. VO
PRIMARY EXAMINER